IN THE SPECIFICATION

Please replace the paragraph beginning on page 5, line 13 to page 6, line 16 with the following replacement paragraph:

Locomotive 14 rides on a track having limited pitch. Maximum pitches range up to about 2 to 3 percent. Therefore, it is much easier to apply the constraint on $\| \vec{\mathbf{d}} \|$ and to solve for integer ambiguities of N_p^q than in more general cases. Once $\vec{\mathbf{d}}$ is determined, an attitude of locomotive 14 is determined at every epoch. By computing differences in the attitude, the attitude rate is computed. Clock errors and integer ambiguities are readily computed, so that a continuous measurement of heading and heading rate is output from GPS receivers 16 and 18. In particular, heading is given by $\tan^{-1}\frac{d_x}{d_y}$, and ~~pitch~~ heading rate is given by $\frac{\tan^{-1} d_z}{\sqrt{d_x^2 + d_y^2}}$. Thus, a continuously updated attitude and attitude rate are available. It is only necessary that receivers 16 and 18 maintain phase lock with received signals from the GPS satellites 20, 22... up to an *n*th satellite. If phase lock is not maintained cycle slip will occur at which time integer ambiguities will have to be recalculated. Microprocessor 24 coupled to receivers 16 and 18 is used, in one embodiment, to compute at least one of an accurate heading and heading rate. As used herein, microprocessor 24 refers to controllers and processors, including microcontrollers, programmable logic controllers, input/output controllers, reduced instruction set circuits, application specific integrated circuits, logic circuits, and any other circuit, processor or microcomputer capable of processing the embodiments described herein. For example, results are displayed on display 26 or recorded on an internal or external device 28 such as a hard disk or magnetic tape or sent to a navigational computer. In one embodiment, device 28 is a transmitter configured to relay computed location and/or motion information to another location.